



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,511	10/10/2001	Masahiro Kawakami	00447CD/HG	8922

1933 7590 07/02/2002

FRISHAUF, HOLTZ, GOODMAN & CHICK, PC
767 THIRD AVENUE
25TH FLOOR
NEW YORK, NY 10017-2023

EXAMINER

ANDREWS, MELVYN J

ART UNIT PAPER NUMBER

1742

DATE MAILED: 07/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

MF=7

Office Action Summary

Applicati n N .

09/974,511

Applicant(s)

KAWAKAMI ET AL.

Examiner

Melvyn J. Andrews

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 Jan 2002 & 10 Oct 01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-27 and 38-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-27 and 38-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1742

DETAILED ACTION

Claim Rejections - 35 USC § 103

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 24 to 26, 38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satchell Jr (US 5,938,815). Satchell Jr discloses an iron refining method comprising feeding an iron ore feed, a carbon containing substance and an oxygen containing gas into a secondary reactor to form hot solids containing char and partly reduced iron ore, separating gas from the products to form an intermediate feed which is introduced into a primary reactor which is a melt-gasifier into which high purity

Art Unit: 1742

oxygen is introduced as feed 14 (col. 3, lines 1 to 39) to produce iron 18 but does not explicitly disclose that the high-purity oxygen feed 14 may be a gas containing 20% or more of oxygen but it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the oxygen concentration since it is a result effective variable as evidenced by Satchell Jr which discloses that oxygen-enriched air or even high purity oxygen as feed (col.3, lines 1 to 7) In re Boesch 205 USPQ 215.

Claims 27 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satchell Jr as applied to claim 24 above, and further in view of the Japanese patent No.6-271919. Satchell Jr does not disclose a rotary kiln as a secondary reactor for reducing iron ore but the Japanese patent discloses an iron-making process comprising a process for pre-reducing ore with coal in a rotary kiln to produce a mixed product which is charged into a smelting furnace it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a rotary kiln as a secondary reactor since it is suitable to pre-reduce ore and to produce char as used in the Satchell Jr. primary reactor.

Claims 27 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satchell Jr as applied to claim 24 above, and further in view of Kundrat (US 5,567,224). Satchell Jr does not disclose a rotary hearth furnace as a secondary reactor but Kundrat discloses a process in which ore mixed with pulverized reductant is fed to a rotary hearth furnace 14 for at least partial metallization, the metal being used as feed material into a refining vessel such as a converter 18 (col.7, lines 24 to 47) it would have been obvious to one of ordinary skill in the art at the time the invention was made

Art Unit: 1742

to carry out the Satchell Jr pre-reduction in a rotary hearth furnace since Kundrat discloses that a RHF is suitable for at least partial metallization.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is 703-308-3739. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

mja
June 27, 2002


MELVYN ANDREWS
PRIMARY EXAMINER